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***Guide
for
Cutting
Loblolly
Pine
of the
Eastern
Shore***

U. S. DEPARTMENT OF AGRICULTURE
FOREST SERVICE



Loading loblolly pine, Eastern Shore, Md.

F-421798

GUIDE FOR CUTTING LOBLOLLY PINE OF THE EASTERN SHORE

Prepared by Northeastern Forest Experiment Station, Forest Service ¹

Description of the Forest

Loblolly pine stands of the Delaware-Maryland-Virginia peninsula often are pure, but may be mixed with pitch, pond, and Virginia pines, gum, maple, and several kinds of oaks.

The suggestions that follow are applicable only if loblolly pine forms about 75 percent of the number of trees per acre 3 inches in diameter ² or larger.

Estimate the Stand ³

If you plan to sell standing trees for the buyer to cut, you will need to make

a complete inventory of the salable trees on the tract. If you plan to cut your own timber and sell logs, measure a sample, perhaps 10 or 20 percent of the trees, to get a fair idea of the volume and quality of timber available. Scale the logs after cutting, to correct this rough estimate. *Knowing what you have to sell, you are in a position to secure a fair price for it.* In making an in-

¹ 614 Bankers Securities Building, Philadelphia 7, Pa.

² Diameter should be measured at breast height, which is 4½ feet above average ground level. Stump diameter is an inch or two larger.

³ For more detailed information, obtain a copy of United States Department of Agriculture Farmers' Bulletin 1210, Measuring and Marketing Farm Timber.

ventory, tally all trees 8 inches in diameter and larger, designating them as best fitted for saw timber, pulpwood, or perhaps just fuel wood, by using a form similar to that shown on pages 6 and 7. In general, trees 14 inches in diameter and larger should be used for saw timber or piling. Do not cut the trees below 14 inches in diameter unless they are crowded and need thinning.

The timber-estimating form is merely a guide for copying. Figures from a $\frac{1}{2}$ -acre tally of a 55-year loblolly old-field stand have been inserted to illustrate its use. The headings dealing with products might be changed, where appropriate, to include piling and basket veneer or to exclude items not marketable.⁴

Plan a 30- to 50-percent Cut

Loblolly pine stands that have reached an age of 50 years, or more, may be ready for a first harvest cutting. This cutting should remove from 30 to 50 percent of the stand, taking the larger trees for sawlogs, veneer, and piling and the smaller ones for fuel wood, posts, and pulpwood. If the first cutting is 30 percent of the stand, two more cuttings at 10-year intervals should clean off the remainder. If the first cutting is 50 percent, then one more cutting should be made 10 years

⁴ Local markets determine the kind and value of trees suitable for saw or veneer logs, piling, pulpwood, chemical wood, or fuel wood. The local market and value of each product should be ascertained. Usually the best values are obtained for veneer, piling, or sawlogs. Smaller or less valuable trees and tops may be utilized for pulpwood or chemical wood if not needed for future saw timber; fuel wood is usually cut from tops or trees not suitable for other products.

later. But in the final harvest cutting leave 10 healthy, full-crowned loblolly pine seed trees per acre in order to seed in the last cuttings. In over-mature or decadent stands, such as those 70 years old or older, a higher percentage cut, up to 80 or 90 percent of the volume, may sometimes need to be removed in the first cut and only seed trees or groups left.

It will pay to have a professional forester⁵ draw up a plan to fit your particular woodland. Such a plan might involve several thinnings, group or strip clear cutting, soil preparation for new crops of seedlings, and other operations. In the sample given on the estimating form, there are 6,900 board feet per acre of saw timber, 26 cords of pulpwood, and $3\frac{1}{3}$ cords of fuel wood. The cut could be all the

fuel wood, 3,450 board feet of saw timber per acre, and about a third of the pulpwood (to thin it out, but saving the best for future sawlogs).

Thin Young Stands

Stands 20 to 50 years of age may be thinned periodically for pulpwood and other products until ready for final cuttings, removing not more than 15 to 20 percent of the stand every 5 years. The thinnings should favor the development of vigorous, straight, fairly large-crowned pines that will develop rapidly into highly valuable piling and sawlogs. Frequent light thinnings are more desirable than one

⁵ Your State forester, extension forester, local Forest Service officer, foresters of other Government agencies, or private consulting foresters can help you estimate, mark, manage, and market your trees. Seek their counsel before cutting.

heavy thinning, because hardwoods will invade sparsely stocked pine stands.

Pine piling is sometimes worth three times as much as sawlogs. Basket-veneer "bolts" (logs) of good quality bring a high price. Try to use each product for its highest value.

Small Trees

If the merchantable volume of a stand is made up of large logs rather than many small ones, it will cost much less per thousand board feet to cut and skid. - This will make for greater profit, if you do your own logging; it should result in a better price if you sell standing trees because the operator can log with less expense.

Twice as many man-hours are required to cut or to skid 1,000 board feet

of sawlogs from 6-inch as from 13-inch pine trees, and nearly three times as many man-hours to mill it. You can make a labor saving of at least 16 percent by cutting no trees under 13 inches in diameter for sawlogs.

The value of graded lumber from 13-inch trees is 50 percent greater than that of lumber from 6-inch trees.

A cordwood cutter can produce 2 cords from 12-inch trees in the time it takes to cut 1 cord from 4-inch trees.

Do Not Cut—

If the merchantable volume of trees 14 inches and larger in diameter is less than 2,000 board feet per acre, except for possible thinnings in small groups to improve the stand. Ten 14-inch trees would make 2,100 feet. Such a sparse stand should not be cut into

but allowed to build up.

SCALING LOGS

Measure the volume cut by using one of the following log rules. The Doyle rule is most commonly used in the East, but it benefits the buyer by giving too low a volume for logs under 28 inches in diameter. The Vermont, or Humphrey rule (diameter by $\frac{1}{2}$ for 12-foot logs), commonly used on the Eastern Shore of Maryland and in

Delaware, fits the close utilization in this region very well, but tends to underestimate logs 15 inches in diameter and larger. The International is the fairest and most accurate rule. It allows a $\frac{1}{4}$ -inch saw kerf and gives the lumber content of the log resulting from careful sawing by good methods. If another rule is proposed, check it against the values given on page 8 to see how much it varies from the International rule.

(1) Diameter class ² (inches)	Softwoods								
	(2)		(3) Cords per tree ³	(4)			(5)	(6)	
	Board feet per tree			Number of trees			Volume, board feet	Volume, cords	
	Loblolly Pine	All others		Saw timber	Pulp- wood	Fuel wood	Saw timber	Pulp- wood	Fuel wood
8.....	27		0.07		22			1.54	
9.....	46		.10		22	2		2.20	0.20
10.....	69	70	.13		21	3		2.73	.39
11.....	96	91	.15		14	1		2.10	.15
12.....	130	112	.18		12			2.16	
13.....	170	141	.21		7	2		1.47	.42
14.....	210	170	.26	6			1,260		
15.....	250	207	.31	3			750		
16.....	290	244	.38	2			580		
17.....	340	282	.44						
18.....	385	320	.53	1			385		
19.....	430	370	.61						
20.....	475	420	.70	1			475		
22.....	570	500	.78						
24.....	660	590							
26.....		690							
28.....		800							
30.....		970							
Total (½-acre).....				13	98	8	3,450	12.20	1.16
Total per acre.....				26	196	16	6,900	24.40	2.32

¹ Tally in columns 4 and 9 the number of trees in each diameter class. Simple multiplication will then give the board-foot and cord volumes for each class. Where values for saw timber and cordwood overlap, distinguish in your tally between timber and cordwood trees.

Estimating Form ¹

Hardwoods							
(7)	(8)	(9)			(10)	(11)	
Board feet per tree	Cords per tree ³	Number of trees			Volume, board feet	Volume, cords	
		Saw timber	Pulpwood	Fuel wood	Saw timber	Pulpwood	Fuel wood
.....	0.20	.....	2	1	.....	0.40	0.20
.....	.25	.....	.....	.....	.....	.....	.....
42	.30	.....	.....	1	.....	.....	.30
61	.35	.....	.....	.....	.....	.....	.....
75	.40	.....	.....	.....	.....	.....	.....
95	.48	.....	1	.....	.....	.48	.....
114	.56	.....	.....	.....	.....	.....	.....
137	.65	.....	.....	.....	.....	.....	.....
160	.75	.....	.....	.....	.....	.....	.....
192	.85	.....	.....	.....	.....	.....	.....
224	.95	.....	.....	.....	.....	.....	.....
255	1.07	.....	.....	.....	.....	.....	.....
286	1.18	.....	.....	.....	.....	.....	.....
354	.....	.....	.....	.....	.....	.....	.....
421	.....	.....	.....	.....	.....	.....	.....
500	.....	.....	.....	.....	.....	.....	.....
600	.....	.....	.....	.....	.....	.....	.....
700	.....	.....	.....	.....	.....	.....	.....
.....	.....	.....	3	2	.....	.88	.50
.....	.....	.....	6	4	.....	1.76	1.00

² Diameter of tree measured at breast height (4½ feet). If you choose to group your trees by 2-inch classes, as 8, 10, 12, etc., remember that in classifying, diameters greater than the odd inch go in the higher class. (Example: A tree 11.1 or 13.0 inches is in the 12-inch class; one from 9.1 to 11.0 inches is in the 10-inch class.)

³ This is for standard 48-inch cords. For 52-inch cords, decrease each item by 7.5 percent. For 60-inch cords, decrease each item by 20 percent.

International ($\frac{1}{4}$ -inch) Rule

Diameter of log at small end, inside bark (inches)	Scale in board feet for log length of—				
	8 feet	10 feet	12 feet	14 feet	16 feet
8	15	20	25	35	40
10	30	35	45	55	65
12	45	55	70	85	95
14	65	80	100	115	135
16	85	110	130	155	180
18	110	140	170	200	230
20	135	175	210	250	290
22	170	215	260	305	355
24	205	255	310	370	425

Doyle Rule

8	8	10	12	14	16
10	18	23	27	32	36
12	32	40	48	56	64
14	50	62	75	88	100
16	72	90	108	126	144
18	98	122	147	171	196
20	128	160	192	224	256
22	162	202	243	283	324
24	200	250	300	350	400

Vermont Rule

8	21	27	32	37	43
10	33	42	50	58	67
12	48	60	72	84	96
14	65	82	98	114	131
16	85	107	128	149	171
18	108	135	162	189	216
20	133	167	200	233	267
22	161	202	242	282	323
24	192	240	288	335	384



